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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

DESIRE, GREGORY M

ART UNIT PAPER NUMBER

2625

DATE MAILED: 06/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/803,992

Applicant(s)

FELS ET AL.

Examiner

Gregory M. Desire

Art Unit

2625

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 13 March 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-59 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 1-11, 25-46, 48, 49 and 56-59 is/are rejected.
- 7) ☒ Claim(s) 12-24, 47 and 50-55 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 March 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 2 and 3.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-6, 11, 25-27, 28-41, 46, 48-49 and 56 are rejected under 35

U.S.C. 102(e) as being anticipated by Christian et al (6,434,271).

Regarding claims 1, 28, 29 and 30 Christian produces,

Identifying the positions of pixels in an image of the space, (note col. 9 lines 15-24 and 60-67, positions (rows and columns) of pixels in YUV mask image of the scene image is identified) which satisfying a condition relating to a pixel property associated with the object;

Classifying said positions into a group according to classification criteria (note col. 9 lines 37-40 and col. 10 lines 16-19, rows and columns are grouped according to threshold level (classification criteria); and

Producing a group position representation for said group, from positions classified in said group, said group position representation representing the position of

the object in the space (note col. 9 line 41-47 and col. 10 lines 20-27, vertical and horizontal representation (histogram) of the object in space is produced.

Regarding claims 2 and 31 Christian discloses,

Producing said image (note col. 5 lines 46-47, camera capturing an image describes producing said image).

Regarding claim 3 Christian discloses,

Dividing said image into zones (note col. 9 lines 15-16 and 61-62, examiner interprets dividing image into columns or rows as dividing image into zones).

Regarding claims 4 and 40 Christian discloses,

Identifying said positions of pixels in a zone of said image, which satisfy said condition (col. 9 lines 17-20 and 63-65, counting of horizontal and vertical pixel that's on identifies position of pixel in the horizontal or vertical zone of said image, which satisfy position conditions).

Regarding claim 5 Christian discloses,

Dividing said image into adjacent zones (note col. 9 lines 15-16 and 61-62, examiner interprets dividing image into columns or rows as dividing image into zones, there are plurality of rows and columns allowing for adjacency).

Regarding claims 6 and 41 Christian discloses,

Associating said pixel positions satisfying said condition and in a zone, with the same group as pixels positions satisfying said condition and in an adjacent zone and with a threshold distance of each other (note col. 9 lines 37-49 and col. 10 lines 16-26, highest and lowest pixel of adjacent satisfy conditions in a zone, with same group).

Regarding claim 11 Christian discloses,

Associating pixel positions satisfying said condition and within a threshold distance of each other with the same group (note col. 9 lines 26-30, column group is threshold with a height (distance)).

Regarding claim 25 Christian discloses,

For each of at least one different image of the space to produce group positions representations for each group in each image (note col. 6 lines 25-30, image frames shows different image of space)

Regarding claims 26 and 56 Christian discloses,

Transforming said group position representation into a space position representation, wherein said space position representation represents position coordinates of the object space (note col. 11 lines 57-60, relative location of object is determined).

Regarding claim 27 Christian discloses,

Producing a representation of orientation from a plurality of space position representation (note col. 14 lines 2-10, disambiguator can produce a single representation from plurality of representations).

Regarding claim 32 Christian discloses,

Image-producing apparatus comprise a charge couple device.

Regarding claim 33 Christian discloses,

Complementary metal-oxide semiconductor device having an analog-to-digital converter (note col. 5 lines 37-39).

Regarding claim 34 Christian discloses,

Plurality of image producing apparatus (note col. 5 lines 40-42, lines show plurality of image processing system that produces images).

Regarding claim 35 Christian discloses,

Image producing apparatus further comprises a filter (note col. 11 lines 21-25, classifier producing filtering function).

Regarding claim 36 and 46 Christian discloses,

Wherein said circuit operable to identify and said circuit operable to classify comprises a common application specific integrated circuit (note col. 5 lines 35-36, camera is a common integrated circuit).

Regarding claim 37 Christian discloses

Circuit operable to identify said circuit operable to produce a common digital signal processor (note col. 5 lines 47-49, digitized signal is provided).

Regarding claim 38 Christian discloses,

Wherein said digital signal processor comprises an operating buffer and a receiving buffer, the receiving buffer facilitating receipt of data to be processed while the data in the operating buffer is being processed (note col. 5 lines 54-57, memory/input/output interface receive data to be processed while data is processed).

Regarding claim 39 Christian discloses,

Wherein said circuit operable to produce for comprises a computer (note fig. 1 block 16, image processing system performs computer functions).

Regarding claim 48 Christian discloses,

Wherein said circuit operable to produce is operable to correlate successive group position representations representing positions within a distance of each other (note fig. 16 block 18 and 20 difference correlates groups).

Regarding claim 49 Christian discloses,

Wherein said circuit operable to produce is operable to determine whether said successive group position representations are within a target area (note fig. 16, block 68, located area determines whether representations are within a target area),

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 7-10 and 42-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Christian et al in view of Liang (5,953,448).

Regarding claims 7 and 42 Christian discloses,

Identifying the position of an up-edge pixel and near by pixels. Christian is silent wherein said pixels have a difference in intensity, where said difference in intensity is greater than a threshold value. However, Liang identifies pixels having difference in intensity relative to an intensity of a nearby pixel, where said difference is greater than a threshold (note col. 11 lines 29-34). Identifies pixel difference greater than a threshold. Therefore it would have been obvious to one having ordinary skills to include pixels having difference in intensity, where said difference is greater than a threshold in the system of Christian as evidenced by Liang. Christian identifies edge and adjacent



pixels. Liang in the same field of endeavor provides difference in intensity compared with a threshold. Such method provides less complicated and accurate step in measuring surface contour of an object (note col. 2 lines 10-20).

Regarding claims 8 and 43 Christian and Liang discloses,

Identifying the position of a down-edge pixel having a difference in intensity relative to an intensity of a nearby pixel, where said difference in intensity is less than a threshold (note Liang col. 11 lines 34-39, identifies pixel difference less than a threshold).

Regarding claims 9 and 44 Christian and Liang discloses,

Identifying the positions of pixels between said up-edge and said down-edge pixels (note Christian col. 11 lines 52-54 position of top and down edges are identified).

Regarding claims 10 and 45 Christian and Liang discloses,

Identifying the positions of pixels having intensity greater than a threshold (note Christian col. 11 lines 32-34, identifies pixels having an intensity greater than a threshold).

5. Claim 57 is rejected under 35 U.S.C. 103(a) as being unpatentable over Christian et al in view of Rechsteiner et al (6,246,321).

Regarding claim 57 Christian discloses,

Producing an image representing an object. Christian is silent including an energy radiator on said housing operable to continuously radiate and a circuit operable to cause said energy radiator to continuously radiate energy in an encoded radiation pattern. However Rechsteiner discloses, energy radiator on said housing operable to continuously radiate (note col. 3 lines 34-38 and 42-45, thermal sensor radiates located in a room) and a circuit operable to cause said energy radiator to continuously radiate energy in an encoded radiation pattern (note col. 3 lines 39-41, electronic evaluation system includes circuit). Therefore it would have been obvious to one having ordinary skills in the art to include energy radiator in the system of Christian as evidenced by Rechsteiner. Christian produces an image of an object and Christian in the same field of endeavor includes an energy radiator that detects motion object in dark conditions (note col.1 lines 50-67).

6. Claim 58-59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Christian et al in view of Iijima et al. (6,118,475).

Regarding claim 58 Christian discloses,

Producing images of object in space. Christian is silent wherein the system includes a plurality of image producing apparatus. However Iijima includes a plurality of image producing apparatus (note fig. 8 blocks 1 and 2). Therefore it would have been obvious to one having ordinary skills in the art to include plurality of image producing apparatus in the system of Christian as evidence by Iijima. Christian captures an object image within in a space and Iijima in the same field of endeavor provides the ability to

capture an image at multiple views (note col. 3 lines 43-45) offering a more reliable image processing system (note col. 5 lines 9-12).

Regarding claim 59 Christian and Iijima discloses,

Processor circuit is operable to produce a representation of orientation for a plurality of space position representation (note Iijima col. 11 lines 53-58).

### ***Allowable Subject Matter***

7. Claims 12-24, 47 and 50-55 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claims 12 and 47, the prior art fails to disclose classifying method taught in the claims in combination with the independent claims. Claims 13-24 is dependent on object claim 12. Therefore also objected.

Regarding claim 50, the prior art fails to redefine target area to compensate for movement of the object in the space in combination with other limitations. Claims 51-55 are dependent on objected claim 50. Therefore also objected.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory M. Desire whose telephone number is (703)

308-9586. The examiner can normally be reached on M-F (8:30-6:00) Second Monday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on (703) 308-5246. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Gregory M. Desire  
Examiner  
Art Unit 2625

G.D.  
May 19, 2004



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